SEQUENCE LISTING

<110> Merot, Bertrand
Dieryck, Wilfrid
Lenee, Philippe
Marden, Michael
Gruber, Veronique
Pagnier, Renee-Josee
Baudino, Sylvie
Poyart, Claude

<120> METHOD FOR PRODUCING HAEMIN PROTEINS USING PLANT CELLS, RESULTING PROTEINS AND PRODUCTS CONTAINING SAME

<130> 8076.147USWO

<140> 08/983,564
<141> 1998-06-09

<150> PCT/FR96/01123
<151> 1996-07-17

<150> 95/08615
<151> 1995-07-17

<160> 33

<170> PatentIn Ver. 2.1

<210> 1
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic: pBIOC21

<400> 1
agctgattaa ttaaggcgcg ccacgcgtta ac 32

<210> 2
<211> 32
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
pBIOC21

<400> 2
aattgttaac gcgtggcgcg ccttaattaa tc 32

<210> 3
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 3
tacaagctta acaatggtgc tgtctccggc cgac 34

<210> 4
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 4
cgggtccacc cggagcttgt g 21

<210> 5
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 5
cacaagctcc gggtggaccc g 21

<210> 6
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 6
tcaacggtat ttggaggtca gcac 24

<210> 7
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 7
gtcattaatt aacaatggtg cacctgactc ctgaggagaa gtcggccgtt ac 52

<210> 8
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 8
aatgagctcg ttaacgcgtt tagtgatact tgtgggccag ggc 43

<210> 9
<211> 162
<212> DNA
<213> Nicotiana plumbaginifolia

<400> 9
atggcttctc ggaggcttct cgcctctctc ctccgtcaat cggctcaacg tggcggcggt 60
ctaatttccc gatcgttagg aaactccatc cctaaatccg cttcacgcgc ctcttcacgc 120
gcatccccta agggattcct cttaaaccgc gccgtacagt ac 162

<210> 10
<211> 34
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Nicotiana plumbaginifolia

<400> 10
cgcaagctta acaatggctt ctcggaggct tctc 34

<210> 11
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic: Nicotiana plumbaginifolia and Homo sapiens

<400> 11
tagaattcgg ccggagacag cacgtactgt acggcgcggt ttaag 45

<210> 12
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Nicotiana plumbaginifolia

<400> 12
gtcattaatt aacaatggct tctcggaggc ttctcgcctc tc 42

<210> 13
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic: Nicotiana plumbaginifolia and Homo sapiens

<400> 13
aatgagctcg gccgacttct cctcaggagt caggtgcacg tactgtacgg cgcggtttaa 60
g 61

<210> 14

<211> 171
<212> DNA
<213> Pisum sativum

<400> 14
atggcttcta tgatatcctc ttcagctgtg actacagtca gccgtgcttc tacggtgcaa 60
tcggccgcgg tggctccatt cggcggcctc aaatccatga ctggattccc agttaagaag 120
gtcaacactg acattacttc cattacaagc aatggtggaa gagtaaagtg c 171

<210> 15
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Pisum sativum

<400> 15
cgcaagctta acaatggctt ctatgatatc ctcttcagc 39

<210> 16
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Pisum sativum and Homo sapiens

<400> 16
tagaattcgg ccggagacag cacgcacttt actcttccac cattgc 46

<210> 17
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Pisum sativum

<400> 17
gtcattaatt aacaatggct tctatgatat cctcttcagc tgtg 44

<210> 18

<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Pisum sativum and Homo sapiens

<400> 18
aatgagctcg gccgacttct cctcaggagt caggtgcacg cactttactc ttccacc 57

<210> 19
<211> 69
<212> DNA
<213> Ipomoea batatas

<400> 19
atgaaagcct tcacactcgc tctcttctta gctctttccc tctatctcct gcccaatcca 60
gcccattcc 69

<210> 20
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ipomoea
batatas

<400> 20
cgcaagctta acaatgaaag ccttcacact cgc 33

<210> 21
<211> 45
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Ipomoea batatas and Homo sapiens

<400> 21
tagaattcgg ccggagacag cacggaatgg gctggattgg gcagg 45

<210> 22
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ipomoea batatas

<400> 22
gtcattaatt aacaatgaaa gccttcacac tcgc 34

<210> 23
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic: Ipomoea batatas and Homo sapiens

<400> 23
aatgagctcg gccgacttct cctcaggagt caggtgcacg gaatgggctg gattgggcag 60
g 61

<210> 24
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 24
aaagatgagc ta 12

<210> 25
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 25

gcgaattctc atagctcatc tttacggtat ttggaggtca gcac 44

<210> 26
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 26
aatgagctcg ttaacgcgtt tatagctcat ctttgtgata cttgtgggcc agggc 55

<210> 27
<211> 111
<212> DNA
<213> Ipomoea batatas

<400> 27
atgaaagcct tcacactcgc tctcttctta gctctttccc tctatctcct gcccaatcca 60
gcccattcca ggttcaatcc catccgcctc cccaccacac acgaacccgc c 111

<210> 28
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Ipomea batatas and Homo sapiens

<400> 28
tagaattcgg ccggagacag cacggcgggt tcgtgtgtgg ttg 43

<210> 29
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Ipomea batatas and Homo sapiens

<400> 29

aatgagctcg gccgacttct cctcaggagt caggtgcacg gcgggttcgt gtgtggttg 59

<210> 30
<211> 423
<212> DNA
<213> Homo sapiens

<400> 30
gtgctgtctc ctgccgacaa gaccaacgtc aaggccgcct ggggcaaggt tggcgcgcac 60
gctggcgagt atggtgcgga ggccctggag aggatgttcc tgtccttccc caccaccaag 120
acctacttcc cgcacttcga cctgagccac ggctctgccc aggttaaggg ccacggcaag 180
aaggtggccg acgcgctgac caacgccgtg gcgcacgtgg acgacatgcc caacgcgctg 240
tccgccctga gcgacctgca cgcgcacaag cttcgggtgg acccggtcaa cttcaagctc 300
ctaagccact gcctgctggt gaccctggcc gcccacctcc ccgccgagtt cacccctgcg 360
gtgcacgcct ccctggacaa gttcctggct tctgtgagca ccgtgctgac ctccaaatac 420
cgt 423

<210> 31
<211> 141
<212> PRT
<213> Homo sapiens

<400> 31
Val Leu Ser Pro Ala Asp Lys Thr Asn Val Lys Ala Ala Trp Gly Lys
1 5 10 15

Val Gly Ala His Ala Gly Glu Tyr Gly Ala Glu Ala Leu Glu Arg Met
20 25 30

Phe Leu Ser Phe Pro Thr Thr Lys Thr Tyr Phe Pro His Phe Asp Leu
35 40 45

Ser His Gly Ser Ala Gln Val Lys Gly His Gly Lys Lys Val Ala Asp
50 55 60

Ala Leu Thr Asn Ala Val Ala His Val Asp Asp Met Pro Asn Ala Leu
65 70 75 80

Ser Ala Leu Ser Asp Leu His Ala His Lys Leu Arg Val Asp Pro Val
85 90 95

Asn Phe Lys Leu Leu Ser His Cys Leu Leu Val Thr Leu Ala Ala His
100 105 110

Leu Pro Ala Glu Phe Thr Pro Ala Val His Ala Ser Leu Asp Lys Phe
115 120 125

Leu Ala Ser Val Ser Thr Val Leu Thr Ser Lys Tyr Arg
130 135 140

<210> 32
<211> 438
<212> DNA
<213> Homo sapiens

<400> 32
gtgcacctga ctcctgagga gaagtctgcc gttactgccc tgtggggcaa ggtgaacgtg 60
gatgaagttg gtggtgaggc cctgggcagg ctgctggttg tctacccttg gacccagagg 120
ttctttgagt cctttgggga tctgtccact cctgatgctg ttatgggcaa ccctaaggtg 180
aaggctcatg gcaagaaagt gctcggtgcc tttagtgatg gcctggctca cctggacaac 240
ctcaagggca cctttgccac actgagtgag ctgcactgtg acaagctgca cgtggatcct 300
gagaacttca ggctcctggg caacgtgctg gtctgtgtgc tggcccatca ctttggcaaa 360
gaattcaccc caccagtgca ggctgcctat cagaaagtgg tggctggtgt ggctaatgcc 420
ctagcccaca agtatcac 438

<210> 33
<211> 146
<212> PRT
<213> Homo sapiens

<400> 33
Val His Leu Thr Pro Glu Glu Lys Ser Ala Val Thr Ala Leu Trp Gly
1 5 10 15

Lys Val Asn Val Asp Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu
20 25 30

Val Val Tyr Pro Trp Thr Gln Arg Phe Phe Glu Ser Phe Gly Asp Leu
35 40 45

Ser Thr Pro Asp Ala Val Met Gly Asn Pro Lys Val Lys Ala His Gly
50 55 60

Lys Lys Val Leu Gly Ala Phe Ser Asp Gly Leu Ala His Leu Asp Asn
65 70 75 80

Leu Lys Gly Thr Phe Ala Thr Leu Ser Glu Leu His Cys Asp Lys Leu
85 90 95

His Val Asp Pro Glu Asn Phe Arg Leu Leu Gly Asn Val Leu Val Cys
100 105 110

Val Leu Ala His His Phe Gly Lys Glu Phe Thr Pro Pro Val Gln Ala
115 120 125

Ala Tyr Gln Lys Val Val Ala Gly Val Ala Asn Ala Leu Ala His Lys
130 135 140

Tyr His
145